

REMARKS

Claims 1-15 are all of the claims currently pending in this application after entry of the foregoing amendments. Claims 14 and 15 are newly added via this Amendment.

DRAWINGS:

The Examiner requests that Applicants further distinguish Figure 3 from Figure 8.¹ In particular, the Examiner alleges that it would be helpful to edit the Brief Description of the Drawings so as to indicate that Figure 3 illustrates the shapes of the micro-mirror devices of the prior art, and Figure 8 represents the present invention.

35 U.S.C. §103:

The Examiner rejects claims 1-13 under 35 U.S.C. §103(a) as being unpatentable over Hornbeck (U.S. Patent No. 6,323,928) in view of Giebel et al. (U.S. Patent No. 6,206,209 [hereinafter "Giebel"]). Hornbeck was applied in the previous Office Action, and Giebel is newly applied. Applicants respectfully traverse this rejection in view of the following remarks.

¹ See Interview Summary dated November 20, 2002.

As a preliminary matter, the Office Action is improper on its face due to the reference to "Tang" on lines 10 and 12 of page 4, and line 1 of page 5. The Examiner acknowledged, in the Interview Summary, that there is no motivation to combine Hornbeck and Tang. Also, Tang is not even mentioned in the grounds of the rejection. Accordingly, Applicants respectfully request clarification regarding the use of "Tang."

Turning to the stated grounds of rejection, the Examiner asserts that Hornbeck discloses a majority of the presently claimed elements. However, the Examiner still acknowledges that Hornbeck does not teach or suggest a mirror that is pivoted toward sides of a landing pad. Accordingly, the Examiner refers to Giebel and asserts that this reference teaches how to pivot a mirror toward sides of a landing pad. Applicants respectfully submit that to establish a *prima facie* case of obviousness, the Examiner must establish, among other things, that there is some suggestion or motivation, in either the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the references' teachings.

As acknowledged by the Examiner, Hornbeck does not show a mirror that is pivoted towards sides of a landing pad (see lines 1-3 of page 4 of the Office Action). Thus, the Examiner asserts that it would have been obvious to modify the invention of Hornbeck with the disclosure of Giebel "in order to inexpensively fabricate an accurately controlled, moving optical component, such as a mirror." (Emphasis added; see lines 7-10 on page 3 of the Office Action.)

Applicants respectfully submit that the Examiner's noted motivation is not sufficient to support a *prima facie* case of obviousness.

Giebel is directed to a light scanning system used for bar code reading systems. Giebel does note that one of its objects is to provide a simple and "inexpensively fabricated miniature light beam scanner having an accurately controlled, moving optical component, such as a mirror." (See col. 2, lines 8-11.) However, the reference must be looked at in its entirety. When this is done, one skilled in the art would not have been motivated to modify Hornbeck to have a different structure so as to teach the features of the present claims because Hornbeck does not indicate that the pivoting of the mirror towards sides of the landing pad results in the scanning system having the noted benefits. Thus, if one skilled in the art were to have read Hornbeck, he would not have been taught that the pivoting of the mirror towards sides of the landing pad reduces the expense of making the system or that it makes the system more accurate. Nowhere does Giebel teach a connection between reduced costs and the pivoting of the mirror towards sides of a landing pad.

In fact, Giebel indicates that, in motor driven mirror scanning systems, "components, such as photo diodes, mirrors, motor parts and control circuits are separately manufactured and then assembled. The components must be accurately aligned for proper operation. These production steps are costly." (Emphasis added; see col. 1, lines 36-50.) Thus, it is the production steps that are costly, not the manner in which the mirror pivots.

Also, Giebel discloses a packaged scan element that is “designed for wafer scale assembly, which significantly reduces the device cost.” (See col. 5, lines 43-45.) Thus, the “wafer scale assembly” may lead to reduced cost, but there is no indication that the pivoting of the mirror towards sides of the landing pad reduces the cost. Thus, at best, one may have tried to produce the device of Hornbeck using a “wafer scale assembly,” but would not have been motivated to rearrange the physical structure of Hornbeck based on the teaching of “wafer scale assembly.”

Moreover, if one were to attempt to modify Hornbeck so as to derive the present invention, it would be necessary to make modifications not taught in the prior art because the mirror in Hornbeck pivots towards corners of the structure. Thus, the elements of Hornbeck are positioned and assembled to allow for such movement. If one were to modify Hornbeck to have the presently claimed features, the elements of Hornbeck would need to be redesigned. Such a redesign is not taught or suggested in Giebel. Thus, one skilled in the art would not have been motivated to combine the references in a manner that produces all of the features recited in the claims.

Consequently, claims 1, 10 and 13 are patentable over Hornbeck in view of Giebel, and the rejection of claims 1, 10 and 13 under 35 U.S.C. §103(a) should be withdrawn. Applicants also submit that dependent claims 2-9, 11 and 12 are patentable over these references at least by virtue of their respective dependencies on independent claims 1 and 10.

AMENDMENT UNDER 37 C.F.R. §1.111
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ART UNIT 2673
Q61266

New Claims:

New claims 14 and 15 are hereby added to obtain more varied protection for the invention. The features of these new claims are also not taught or suggested by the applied references. For example, claims 14 and 15 define that the pair of base electrodes opposes each other in a non-diagonal manner with respect to the mirror. The electrodes of Hornbeck do not teach these features because they are positioned to be diagonal from each other, and there is no motivation to modify them to be positioned in any other manner.

In view of the preceding amendments and remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephonic interview, he is kindly requested to contact the undersigned attorney at the local telephone number listed below.


AMENDMENT UNDER 37 C.F.R. §1.111
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ART UNIT 2673
Q61266

The USPTO is directed and authorized to charge all required fees (except the Issue Fee and/or the Publication Fee) to our Deposit Account No. 19-4880. Please also credit any overpayment to said Deposit Account.

Respectfully submitted,

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